

Name: \_\_\_\_\_

**at1124exam: Radicals and Squares (v922)**

**Question 1**

Simplify the radical expressions.

$$\sqrt{8}$$

$$\sqrt{20}$$

$$\sqrt{45}$$

**Question 2**

Find all solutions to the equation below:

$$3((x - 7)^2 + 6) = 93$$

**Question 3**

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 10x = 39$$

**Question 4**

Any quadratic function, with vertex at  $(h, k)$ , can be expressed in vertex form:

$$y = a(x - h)^2 + k$$

A quadratic function is shown below in standard form.

$$y = 2x^2 + 24x + 77$$

Express the function in **vertex form** and identify the **location** of the vertex.